

REMARKS

Favorable reconsideration of this application in light of the above amendments and following remarks and discussion is respectfully requested.

Claims 2-3, 5, 10 and 21-32 are pending in this application. By this amendment, Claims 2-3, 5, and 10 are amended, Claims 21-32 are added, and Claims 1, 4, 6-9 and 11-20 are canceled.

In the outstanding Office Action, Claims 11-20 are rejected under 35 U.S.C. § 102(b) as anticipated by U.S. Patent No. 5,316,616 to Nakamura et al; Claims 1-20 are rejected under 35 U.S.C. § 103(a) as unpatentable over U.S. Patent No. 6,670,265 to Wang et al; and Claims 1-20 are rejected under 35 U.S.C. § 103(a) as unpatentable over Wang et al in view of JP 2002-145,955 to Tsutsumi et al. These rejections are respectfully traversed.

With respect to the features recited in claim 21, in performing a plasma etching process on an etching target film by using a resist containing an alicyclic acrylate resin, an alicyclic methacrylate resin, or a combination thereof as a mask, a surface temperature of an object is lowered by employing a heat dissipation mechanism having an adsorptive holding member. Further, by adopting a material of the adsorptive holding member to have a resistivity smaller than $1 \times 10^{12} \Omega \cdot \text{cm}$, a small amount of current can flow in the adsorptive holding member to reduce the effective thickness thereof, thereby obtaining a strong adsorptive power of the adsorptive holding member. Please see the disclosure of the specification at least on page 24 line 17 to page 25 line 4. As a result, the plasma etching process can be performed in a state where the surface temperature of the object is maintained under a temperature condition of 20°C or less while enhancing the adsorptive power of the adsorptive holding member by way of employing the adsorptive holding member having a resistivity smaller than $1 \times 10^{12} \Omega \cdot \text{cm}$.

With respect to the features recited in claim 23, in performing a plasma etching process on an etching target film by using a resist containing an alicyclic acrylate resin, an alicyclic methacrylate resin, or a combination thereof as a mask, a surface temperature of an object is lowered by employing a heat dissipation mechanism having an adsorptive holding member. Further, by finishing a surface of the object in contact with the adsorptive holding member (i.e. the backside surface of the object) to be a mirror surface, an adsorptive power of the adsorptive holding member can be enhanced. As such, the plasma etching process is performed in a state where the surface temperature of the object is maintained under a temperature condition of 20°C or less while enhancing the adsorptive power of the adsorptive holding member by way of finishing the backside surface of the object to have a mirror surface.

With respect to the features recited in claim 28, in performing a plasma etching process on an etching target film by using a resist containing an alicyclic acrylate resin, an alicyclic methacrylate resin, or a combination thereof as a mask, a surface temperature of an object is lowered by employing a heat dissipation mechanism having an adsorptive holding member. Further, by forming in advance a SiN film on a backside of the object, static electricity can be easily collected at the boundary between the SiN film and a surface of the object, thereby obtaining a strong adsorptive power of the adsorptive holding member. Please see at least page 23, lines 15 to 23. Consequently, the plasma etching process is performed in a state where the surface temperature of the object is maintained under a temperature condition of 20°C or less while enhancing the adsorptive power of the adsorptive holding member by forming a SiN film on the backside of the object.

In order to establish a *prima facie* case of obviousness, three basic criteria must first be met. First, there must be some suggestion or motivation, either in the references themselves or in the knowledge generally available to one of ordinary skill in the art, to

modify the references or to combine the references teachings. Second, there must be a reasonable expectation of success. Finally, the prior art references (or references when combined) must teach or suggest all the claim limitations. The teaching or suggestion to make the claimed combination and the reasonable expectation of success must both be found in the prior art, and not based on applicant's disclosure. In re Vaeck, 947 F.2d 488, 20 USPQ2d 1438(Fed. Cir. 1991). With respect to the rejection of the claims under 35 U.S.C. § 103(a), Applicant respectfully asserts that only the present application suggests the claimed combination of features.

In accordance with the features recited in claims 21, 23 and 28, the plasma etching process is performed while the surface temperature of the object is lowered, by enhancing the adsorptive power of the adsorptive holding member by way of (1) adopting the material of the adsorptive holding member to have a resistivity smaller than $1 \times 10^{12} \Omega \cdot \text{cm}$ as recited in claim 21; (2) finishing the surface of the object in contact with the adsorptive holding member to be a mirror surface as recited in claim 23; and (3) forming a SiN film on the backside of the object as recited in claim 28.

In contrast to the features of the claimed invention discussed above, Wang et al disclose a process for etching a wafer, wherein the wafer is cooled simply by supplying He gas between a backside of the wafer and a chuck holding the wafer. Tsutsumi et al is directed to polymer compound for photoresist, wherein the alicyclic groups are used as a mask in order to improve the resistance of a mask during an etching process.

None of the applied art teaches, discloses, or even suggests that the surface temperature of the object can be lowered by enhancing the adsorptive power of the adsorptive holding member by any one of (1) adopting the material of the adsorptive holding member to have a resistivity smaller than $1 \times 10^{12} \Omega \cdot \text{cm}$; (2) finishing the surface of the object in

contact with the adsorptive holding member to be a mirror surface; and (3) forming a SiN film on the backside of the object.

Accordingly, it is respectfully submitted that prior art references do not render obvious the features recited in claims 21, 23 and 28 and thus, they are in condition for allowance. Claims 2, 3, 5, 10 and 22, 24-27 and 29-32 depending on claims 21, 23 and 28, are also in condition for allowance for at least the reasons discussed above as well as for the additional features they recite.

Consequently, no further issues are believed to be outstanding in the present application, and the present application is believed to be in condition for formal allowance. A Notice of Allowance for pending claims 2-3, 5, 10 and 21-32 is earnestly solicited.

Should the Examiner deem that any further action is necessary to place this application in even better form for allowance, the Examiner is encouraged to contact the undersigned representative at the below-listed telephone number.


Respectfully submitted,

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